

THE ORNITHOLOGICAL SURVEY OF JODHPUR STATE.

BY

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In 1933 His Highness the Ruler of Jodhpur State suggested that our Society should make arrangements for an ornithological survey of Jodhpur State on the lines of the previous surveys undertaken by the Society and he further expressed his willingness to defray the cost of such a survey for a period of three months. Needless to say this handsome offer was gratefully accepted and the work in the field was put into the hands of Mr. V. S. La Personne, one of the Society's officers who had already taken part in the Eastern Ghats Survey.

It was not expected that any novelties would be discovered in Jodhpur State. This was quite unlikely in view of the arid and semi-desert character of the greater part of the State and its close correspondence with the neighbouring areas of Sindh, Rajputana and the Punjab, of which the birds were already very generally known. But it was felt that careful collecting over a period of three months could hardly fail to add something to our knowledge of an area of which so little was on record, even though it could only furnish a picture of part of the bird year.

Our previous knowledge of the birds of Jodhpur State is derived from three main sources. The first is the work of Mr. R. M. Adam who was resident at Sambhur for several years. About 1870-74 he was a correspondent of A. O. Hume's and made a large collection of birds which are now in the British Museum. The result of his observations was recorded in *Stray Feathers* as follows:—'Notes on the Birds of the Sambhur Lake and its vicinity', *Stray Feathers*, vol. i, pp. 361-404. 'Additional Note on the birds of the Sambhur Lake and its vicinity', *Stray Feathers*, ii, pp. 337-41 and pp. 465-6.

Sambhur Lake cuts across the north-east boundary of Jodhpur State and Adam treated of the area of the lake as a whole without considering political boundaries. As many of the birds mentioned are water birds and the area is not typical of Jodhpur State proper and as there is nothing to show in many cases which side of the boundary the birds came from this list has to be used with some discretion by the student of Jodhpur State.

The second authority for Jodhpur is Dr. King who collected at Mount Aboo and in Jodhpur for nearly two years. His birds are also in the British Museum. He unfortunately published no account of his observations but he supplied Hume with a manuscript list of species obtained in the plains of Jodhpur in spring, summer and autumn and that was largely drawn on by Hume in his notes to Captain Butler's paper, to be mentioned below (vide *S.F.*, iii, p. 440).

The third authority for the State is Allen Octavian Hume himself. He appears to have been in Jodhpur on more than one occasion but his only paper dealing with his own collecting in the area will be found in *Stray Feathers*, vol. vii, pp. 52-68, 'The Birds of a Drought'. This deals with a stay at Jodhpur city from 15 January to 15 February and with intensive collecting in an area of 8 to 10 miles round the city. Conditions were not however normal owing to the severe drought. He did however contribute a series of notes on the neighbouring areas, including Jodhpur, to an important paper by Captain E. A. Butler, 'Notes on the avifauna of Mount Abo and Northern Gujerat' (*Stray Feathers*, iii, pp. 437-500 and iv, pp. 1-41). To this paper Hume also contributed one of his customary regional analyses which is of interest to the student of Jodhpur.

From these three sources I have abstracted as far as is practicable—for many of the references are in very general terms—the information which refers to Jodhpur State and adding it to the information which has been obtained by the present survey have thus prepared what can only be regarded as a very imperfect nominal list of the birds of Jodhpur State. My hope is that it may serve as a starting point for any fresh observer who may be stationed in Jodhpur and is able and willing to study the birds of the State in the way that they should be studied.

Mr. La Personne collected 361 birds during the survey. The following list shows the serial numbers of the specimens collected at each camp together with the period spent there.

Nos. 1-18; 8 Oct. 1933—9 Oct. 1933; Pali, Marwar District.

Nos. 19-140; 10 Oct. 1933—31 Oct. 1933; Hamavas Lake, Pali.

Nos. 141-211; 2 Nov. 1933—10 Nov. 1933; Jalor.

Nos. 212-238; 13 Nov. 1933—16 Nov. 1933; Bhinmal.

Nos. 239-300; 21 Nov. 1933—2 Dec. 1933; Sunda Hill, Jaswantpura District.

Nos. 301-316; 2 Dec. 1933—5 Dec. 1933; Jawar, Jaswantpura District.

Nos. 317-330; 6 Dec. 1933—21 Dec. 1933; Tilwara.

Nos. 331-351; 1 January 1934—5 January 1934; Phalodi.

Nos. 354-361; 8 January 1934—14 January 1934; Pichiak Lake, Bilara District.

It will be realised, therefore that Mr. La Personne must have worked very hard in collecting and skinning. He did not however furnish any field notes of importance on the collection or any notes on the collecting areas so I fear that my report can be little but a nominal list of the specimens collected, supplemented by such notes as I have procured from the three main sources outlined above. Critical discussions of races have not been called for as whatever might have been said on these particular species has already been said by Dr. Ticehurst in his Sind papers or by myself in connection with the Punjab or in the various survey papers.

Any Gazetteer may be consulted for a general description of Jodhpur State. With these few preliminary remarks I now proceed to enumerate the species and subspecies either procured by the survey or otherwise recorded as occurring in Jodhpur State.

Corvus corax laurencei Hume.

Specimen collected :—338 ♀ 2-1-34 Phalodi ; 358 ♀ 12-1-34 Pichiak Lake, Bilara.

Found throughout the whole State in the winter months. Hume remarks on the boldness of this Raven. 'Our camp, he says, was a large one perhaps containing a thousand souls and in amongst the tents from dawn till dark, familiar and fearless as sparrows, were at all times from 50 to 100 of these Ravens, stalking about singly and croaking vigorously to each other'. La Personne also remarks on the tameness of the bird in the desert towns. In Phalodi they actually entered the bungalow verandas and no. 338 was caught with a basket and string trap. A nest with 2 fresh eggs was seen on 19 December on a signal platform of the railway at Tilwara, the birds being but little disturbed by passing trains. Many old nests were seen in the desert outside Chanod, mostly placed on acacia trees barely 6 foot high.

Corvus macrorhynchos Wagler.

La Personne reports that a single Jungle-Crow was seen in His Highness' garden at Jaswantpura, no doubt as a straggler from the Aravallis. Hume and Adam failed to meet it either at Jodhpur or Sambhur.

Corvus splendens splendens Vieillot.

Specimens collected :—187 ♂ ad. 6-11-33, ♀ ad. 10-11-33 Jalor 500 ft.

Hume found the House-Crow rare at Jodhpur under drought conditions, but La Personne says it occurs throughout the greater part of the State except in the more arid regions. It was common at Barmer in December. In some localities, such as Puchbunddra, according to Hume the House-Crow is only a rains visitor (*S.F.*, iii, 493).

La Personne furnishes an interesting note on the roosting flight of this species in Jaswantpura district. The evening flight passed over his camp at 3,400 ft. on Sunda Hill and from that elevation he could see the birds leaving the plains in huge flocks and crossing the hill at one particular dip in the ridge, making for the Abu range. The first flock would cross (at the end of November and beginning of December) about 5.30 p.m. and then with intervals of a minute or two between each flock the flight would continue until about 6.45 to 7 p.m. The morning flight was over before sunrise. Some of these birds doubtless came from great distances, as when the survey was at Jalor and Tilwara the start of the evening flights was noticed.

Both specimens collected belong to the typical form and La Personne particularly remarks that throughout the survey he noticed that all House-Crows were typical in colour and not of the paler *zugmayeri* form.

Dendrocitta vagabunda pallida Blyth.

Specimens collected :—♀ imm. 10-10-33 Hamavas Lake ; 306 ♀ ad. 4-12-33, 313 ♂ ad. 5-12-33 Jawar, Jaswantpura District.

The Indian Tree Pie was common in and around Jodhpur town but the specimen collected at Hamavas Lake appeared to be the only individual in the strip of Babul jungle growing along the dam. A pair visited the camp on Sunda Hill, 3,400 ft.

Specimens collected will pass in colour as *pallida* though their measurements (♂♀ ad. wing 161, 150 tail 259, 235 mm.) are a little on the small side. La Personne remarks, however, that the pair on Sunda Hill appeared to be larger with longer tails.

Parus major mahrattarum Hartert.

Specimens collected :—244 ♀ 245 ♂ 21-11-33, 248 sex ? 22-11-33, 262 ♂ 23-11-33, 271 ♀ 25-11-33, 286 ♂ 28-11-33, 294 ♀, 295 ♂ 29-11-33, Sunda Hills, 3,400 ft., Jaswantpura.

The Indian Grey Tit was plentiful on Sunda Hill frequenting the ravines and old watercourses and being found in the hunting parties with White-eyes and Willow-wrens. There is a specimen in the Hume collection obtained on the Desuri Road from Jodhpur on 10 February 1878 and it is also found in the Marot and Koochamun jungles to the north of the Sambhur Lake.

***Parus nuchalis* Jerdon.**

The survey unfortunately failed to meet with the White-winged Black Tit but it occurs along the eastern borders of the Jodhpur State as Adam found it quite common towards Marot and Mokrana, and Hume (S.F., iii, 492) obtained it from the neighbourhood of Pali.

***Turdoides somervillei sindianus* (Ticehurst).**

Specimens collected:—279 ♀ 27-11-33, Sunda Hill, 3,400 ft.

This specimen of the Jungle Babbler was secured from a family party on Sunda Hill. The species was not otherwise observed though Hume included the bird in his Jodhpur list.

***Argya caudata caudata* (Dumont).**

Specimens collected:—4 sex ? juv., 9 ♀ ad. 10 ♂ juv., 8-10-33 Pali; 118 ♂, 119 ♂, 120 ♀ 21-10-33 Hamavas Lake, Pali district; 323 ♂ 19-12-33 Tilwara, 348 ♀ ad., 349 ♀ imm. 5-1-34 Phalodi.

The Common Babbler is one of the most common and generally distributed birds in the State though it was not found in the hill area of Jaswantpura district. Young and eggs were noted in October.

***Argya malcolmi* (Sykes).**

Specimens collected:—142 ♂ 31-10-33, 164 ♀ 3-11-33, 170 ♀ 4-11-33 Jalor.

The Large Grey Babbler is very common at Jodhpur and extends to Balotra, Siwaria and Jalor, though it is absent according to La Personne from the desert region further west and from the hills of Jaswantpura.

***Chrysomma sinensis hypoleucos* (Franklin).**

Specimens collected:—19 ♂ 10-10-33, 34 ♂ 11-10-33, 49 ♂ 13-10-33, 138 ♀ 25-10-33 Hamavas Lake; 259 ♂, 260 ♂, 261 ♂ juv., 23-11-33, 267 ♀ 25-11-33, Sunda Hill, 3,400 ft.; 301 ♂, 302 ♀ 2-12-33, Jawar, Jaswantpura district; 354 ♂ 355 ♀ 8-1-34, Pichiak Lake.

The Yellow-eyed Babbler is common on Sunda Hill in the bamboo-jungle and was also found on the plains in Tamarisk and Babool forests and in the reed beds and grass lands round the larger lakes, but was met by the Survey nowhere west of a line roughly through Jodhpur, Jalor, Bhinmal and Jaswantpura. Adam obtained it from the hills near Koochamun. The young male no. 261 was probably not more than a month old and was secured from family party.

Aegithina nigrolutea* (Marshall).**Aegithina tiphia* (L.).**

Specimens collected:—268 ♂ imm. 25-11-33, Sunda Hill, 3,000 ft.

La Personne says that an Iora was not uncommon on Sunda Hill. When Hume wrote in 1875, before the two species of Iora had been differentiated, he said that the Iora was common in the eastern portions of Jodhpur but occurred for the most part only in the rains in western Jodhpur. The solitary specimen obtained by the Survey—which was in company with a party of White-eyes in a large Banyan tree—is immature and therefore cannot be identified subspecifically but it appears to me to be of the species *tiphia*. A specimen in the Hume collection from the hills near Koochamun is, however, *nigrolutea* to which species also belong the Ioras collected by Adam at Sambhur and a specimen from Anadra (just over the Jodhpur border near Mount Aboo) in the Hume collection. It is evident, therefore, that both forms of Iora occur in Jodhpur State but their status and distribution and the exact relationship between them remain to be worked out.

***Molpastes haemorrhous pallidus* Stuart Baker.**

Specimens collected:—108 ♀, 109 ♂ 20-10-33, 116 ♀ 21-10-33, Hamavas Lake, Pali.

The Red-vented Bulbul is common on the hills of the Jaswantpura district and extends into the plains, as at Jodhpur, Barmer and Phalodi where conditions are suitable. In western Jodhpur, according to Hume it occurs for

the most part only in the rains. Fledged young were seen being fed by their parents on 18 October.

Molpastes leucogenys leucotis (Gould).

Specimens collected:—26 ♂ 11-10-33, 64 ♀ 15-10-33, 105 ♂ 20-10-33, 117 ♀ 21-10-33, 126 ♂ 22-10-33, 130 ♀ 132 sex ? 23-10-33; Hamavas Lake, Pali; 163 ♂ 3-11-33, Jalore.

The White-eared Bulbul is one of the most familiar and widely spread birds in the State, inhabiting light babul forest, cactus-covered land and the semi-desert country round villages. It is plentiful at Barmer and Phalodi and about Nawa and Mata Pahar on the Sambhur Lake. La Personne remarks that both species of Bulbul were common on the hillside at Hamavas which was thickly covered with cactus, and on more than one occasion individuals of the two species were observed in company, though no hybrids were observed.

Salpornis ptilinota rajputanae Meinertzhagen.

There are a pair of specimens of the Spotted Grey Creeper in the British Museum collected by Adam on the 6th and 25th of June 1873 and labelled Sambhur. These are presumably the two specimens which Adam says he obtained in the jungle near Koochamun.

Saxicola caprata bicolor Sykes.

Specimens collected:—38 ♀ 12-10-33, 72 ♂ 16-10-33, 79 ♂ 17-10-33, 88 ♂ 18-10-33; Hamavas Lake; 161 ♂ 3-11-33, 165 ♂ 4-11-33, 173 ♂, 174 ♂, 175 ♀ 5-11-33, 184 ♂ 6-11-33; Jalore; 232 ♀ 16-11-33, Bhinmal.

The Pied Bush-chat is very common and generally distributed in Jodhpur, occurring both in the desert country and on the hill top at Sunda.

Saxicola torquata indica (Blyth).

Specimens collected:—87 ♂ 18-10-33 Hamavas Lake; 178 ♂ 5-11-33 Jalore; 212 ♂ 13-11-33, 244 ♂ 15-11-33 Bhinmal.

The Stone-chat is a common winter visitor.

Saxicola macrorhyncha (Stoliczka).

Stoliczka's Whin-chat was not procured by the Survey but Hume found it 'extremely common in the thin, stunted scrub jungle that here and there studs the sandy, semi-desert, waterless tracts that occur all round Jodhpur'. He procured a large series of over 30 specimens (now in the British Museum) at the end of January and during the first week in February and wrote an interesting note on them (S.F., vii, 55). It is no doubt resident.

Oenanthe picata (Blyth).

Specimens collected:—2 ♂ 8-10-33 Pali; 150 ♂ 2-11-33 Jalore.

Although scarce at the beginning of October the Pied Wheatear, says La Personne, increased in numbers with the colder weather and was very generally distributed except in the forested areas. At Jalore and other rest-houses they often rested on the doors and windows during the heat of the day and at Jalore a fine male roosted regularly on the 'kass-kass' door.

Oenanthe opistholeuca (Strickland).

Strickland's Wheatear was not procured by the Survey but Hume says it occurs here and there throughout Jodhpur, of course as a winter visitor only.

Oenanthe isabellina (Temm.).

Specimens collected:—1 ♂ 3-10-33, 7 ♂ 8-10-33 Pali.

The Isabelline Wheatear is said by La Personne to be very generally distributed except in the hill tracts of Jaswantpura.

Oenanthe deserti atrogularis (Blyth).

Specimens collected:—146 ♀ 1-11-33, 183 ♂ 6-11-33 Jalore; 337 ♀ 2-1-34 Phalodi.

The Desert-Wheatear was found to be very common at Barmer and Phalodi.

Oenanthe xanthoprymna chrysopygia (De Filippi).

The Red-tailed Wheatear was not procured by the Survey but Hume obtained it in the neighbourhood of Jodhpur and wrote a long note on its correct name (p. 57).

Cercomela fusca (Blyth).

Specimens collected:—162 ♂ 3-11-33, 188-9 ♂ ♂ 6-11-33, 191 ♂ 194-5 ♀ ♀ 7-11-33 Jalor; 240 ♀, 243 ♂ 21-11-33, 275 ♂ 26-11-33 Sunda Hill, 3,400 ft.

La Personne says that the Brown Rock-chat is very irregularly distributed in Jodhpur State. He found it common at Phalodi, at Jalor and on the Sunda Hill whereas it was not observed at Marwar Pali or at Barmer and further west of the latter place.

Phoenicurus ochrurus phoenicuroides (Horsfield and Moore).

Specimens collected:—45 ♀ 12-10-33 Hamavas Lake; 167 ♂ 4-11-33, 182 ♀ 6-11-33, 208 ♂ 10-11-33 Jalor.

The Black Redstart was found to be very generally distributed.

Cyanosylvia suecica pallidularis (Sarudny).

Specimens collected: 46 ♂ 12-10-33, 61 ♀ 14-10-33, 62 ♀ 15-10-33, 112 ♂ 21-10-33, 127 ♂ 22-10-33 Hamavas Lake.

La Personne says that a large influx of Bluethroats was observed on the 21 October at Hamavas where there is most suitable ground for them covered with reeds and tamarisk beyond the lake-dam. Many were flushed from chilli crops at Jalor and a single bird was seen in a patch of pulse in the Rest-house garden at Barmer. Hume remarked long ago that in the more desert portions of Jodhpur the Bluethroat seems to be chiefly found towards the close of the rains, that is on the autumn passage.

The identification of Bluethroats in winter plumage in India is largely a matter of guess work but these specimens apparently belong to the race *pallidularis*.

Saxicoloides fulcata cambaiensis (Latham).

Specimens collected:—83-84 ♀ ♀ 17-10-33, 107 ♂ 20-10-33 Hamavas Lake; 151 ♂ 2-11-30 Jalor.

The Brown-backed Indian Robin is absent from the desert areas, such as Barmer and Phalodi, but seems to be generally distributed and common on the eastern side of the State. Hume was of opinion that specimens from western Jodhpur (S.F., iii, 474) were of the type which I have since named *intermedia* but the Survey specimens are clearly *cambaiensis*.

Copsychus saularis saularis (Linnaeus).

Specimen collected:—310 ♂ 4-12-33 Jawar, Jaswantpura District.

Local and apparently absent from the desert tracts, the Magpie Robin is said by La Personne to occur at Chanod, along the Jawai River and at Jodhpur, Balotra and Pali.

Monticola cyanus pandoo (Sykes).

Specimens collected:—133 ♂ 23-10-33 Hamavas Lake; 186 ♂ 6-11-33 Jalor. The Blue Rock Thrush was first seen on 20 October at Hamavas. It was noted on Sunda Hill. Hume includes it in his list from the neighbourhood of Jodhpur.

Muscicapa striata neumanni Poche.

The autumn passage route of the Spotted Flycatcher includes Jodhpur as Hume received specimens collected in the State on September 8th and 16th. The Survey was too late to meet with it.

Siphia parva parva (Bechstein).

Specimens collected:—55 sex ? 14-10-33, 58 ♂ 12-10-33 Hamavas Lake.

The Red-breasted Flycatcher is also included in Hume's Jodhpur list.

***Leucocirca aureola aureola* (Lesson).**

Specimens collected :—53 ♂ 14-10-33 Hamavas Lake ; 314 ♀ 5-12-33 Jawar, Jaswantpura district.

The White-browed Fantail-Flycatcher is a common bird in the gardens of Jodhpur town and in the Babul groves of the eastern side of the State. Adam met a few pairs about Nawa and Marot. According to La Personne it does not occur west of Balotra.

***Lanius excubitora lahtora* (Sykes).**

Specimens collected :—3 ♂, 8 sex ?, 15 ♂ 8-10-33 Pali ; 144 ♂ 1-11-33 Jalor.

The Indian Grey Shrike is extremely common throughout the State except in the forests of Jaswantpura and the wetter areas round the lakes. Occurs on Sunda Hill.

***Lanius vittatus* Valenciennes.**

Specimens collected :—70 ♂ juv. 16-10-33 Hamavas Lake ; 305 ♂ 4-12-33 Jawar, Jaswantpura district.

According to La Personne the Bay-backed Shrike is found all along the eastern side of the State, and also wherever suitable conditions occur on the western side though it avoids the desert country. Noted at Barmer and Phalodi and in most Rest-house gardens. Adam found it breeding commonly in the Marot jungles on 1 August 1872.

***Lanius schach erythronotus* (Vigors).**

Specimens collected :—80-81 ♀ ♂ 17-10-33 Hamavas Lake.

The Rufous-backed Shrike was fairly generally distributed, being also noted by the Survey at Phalodi, Godra Road and Barmer and in the Jaswantpura district.

***Lanius isabellinus* Hempeh Ehrenberg.**

Specimens collected :—25 ♀ 11-10-33, 111 ♂ 20-10-33 Hamavas Lake ; 160 ♂ 3-11-33 Jalor ; 216 ♂ 14-11-33 Bhinmal ; 328 ♀ 21-12-33 Tilwara.

The Isabelline Shrike is common throughout the whole State, according to La Personne, in all the drier and semi-desert areas.

***Tephrodornis pondicerianus pallidus* Ticehurst.**

Specimens collected :—168 sex ? 4-11-33, 176 ♀ 5-22-33 Jalor ; 281 ♂ 27-11-33 Sunda Hill 3,400 ft. ; 308-309 ♂ ♂ 4-12-33 Jawar, Jaswantpura district.

The Common Woodshrike occurs wherever there is suitable Babul forest or bush-covered country and it was noted in the tamarisk forest at Tilwara. The specimens collected are intermediate between the typical race and *T. p. pallidus* but on the whole are closer to the latter.

***Pericrocotus brevirostris* (Vigors).**

Hume states that the Short-billed minivet appears in winter in the southern portions of Jodhpur but it was not procured by the Survey.

***Pericrocotus erythropygius* (Jerdon).**

No minivets were collected by the Survey but Hume procured the White-bellied Minivet in the neighbourhood of Jodhpur town and Adam collected specimens in the jungles near Marot and Koochamun.

***Dicrurus macrocercus albirictus* (Hodgson).**

Specimens collected :—56-7 ♂ ♀ 14-10-33 Hamavas Lake, Pali ; 153-4 ♂ ♂ 2-11-33 Jalor, 500 ft. ; 235 ♀ 16-11-33 Bhinmal.

The King Crow is very generally distributed throughout the State in suitable country.

***Dicrurus longicaudatus* Jerdon.**

Specimen collected :—297 ♂ 29-11-33 Sunda Hill, 3,400 ft.

This specimen appears to provide the only record of the Grey Drongo for Jodhpur State. It is doubtless a winter visitor only.

Agrobates galactotes familiaris (Ménétries).

As in the case of certain other species which take the Arabian route to their winter quarters in Africa, the Rufous Warbler appears in Jodhpur on passage in September in which month in 1868 Dr. King obtained two specimens now in the British Museum (vide *S.F.*, iii, 476 and *Ibis*, 1869, 355).

Acrocephalus stentoreus brunnescens (Jerdon).

Specimens collected :—45-48 ♂♂, ♀♂ 13-10-33, 63 ♂ 15-10-33, 69 ♂ 16-10-33, 75 ♀, 77 ♂ 16-10-33, 113 ♂ 20-10-33, 115 ♂ 21-10-33 Hamavas Lake, Pali.

The Great Reed Warbler was abundant in the extensive reed beds that were examined by Hamavas Lake and they were found to visit the neighbouring tamarisk forest. All the specimens are undergoing a complete moult and it seems extremely probable that the birds breed where they were found, though no old nests were remarked by the Survey, and there are no juveniles amongst the specimens collected.

Acrocephalus dumetorum Blyth.

Specimens collected :—30, 32 sex ? 11-10-33 Hamavas Lake.

Mr. La Personne is of opinion that Blyth's Reed Warbler was very generally distributed in gardens and other suitable places. It was probably on passage.

Orthotomus sutorius guzerata (Latham).

Specimens collected :—123-124 ♂♂, ♀ 22-10-33, 134 ♂ 23-10-33 Hamavas Lake; 155 ♂ 2-11-33, 192 ♂ 7-11-33, 197-198 ♂♂ 8-11-33 Jalor; 250-251 ♂♀ 22-11-33 Sunda Hill, 3,400 ft.

The Tailor-bird was not observed westwards of Tilwara and it does not occur in the desert areas.

Cisticola juncidis cursitans (Franklin).

Specimens collected :—104 juv. 20-10-33 Hamavas Lake; 220-222 ♀♂ sex ? 14-11-33, 229 ♀ 15-11-33, 231 ♂ 16-11-33 Bhinmal.

In addition to the above localities the Fantail Warbler was noted, a single specimen only, at Tilwara. It is of course absent from the desert tracts.

Franklinia gracilis (Franklin).

Specimens collected :—246-7 ♀♂ 21-11-33, 249 ♀ 22-11-33, 256-7 juvs. 23-11-33 Sunda Hill, 3,400 ft.; 316 ♂ 5-12-33 Jawar, Jaswantpura.

Franklin's Wren-Warbler was found in the grasslands which grow to a height of over 4 feet in places, on the Sunda Hill. Adam's collector found it fairly common in the hills near Koochamun.

Franklinia buchanani (Blyth).

Specimens collected :—6 ♂ juv. 8-10-33 Pali; 27 ♂ 11-10-33, 99 sex ? 102 juv. 19-10-33, 106 ♀, 110 ♀ juv. 20-10-33, 122 juv. 22-10-33, 131 ♂ 23-10-33, 137 ♀ 24-10-33 Hamavas Lake; 141 ♂ 31-10-33, 152 ♀, 156 ♂ 2-11-33, 199 ♂ 8-11-33 Jalor; 329 ♂ 21-12-33 Tilwara; 343 ♂ 3-1-34 Phalodi.

Hume stated that the Rufous-fronted Wren-Warbler was very common about Jodhpur and La Personne adds that it is very widely distributed in the State, being there as elsewhere more particularly addicted to the semi-desert tracts thickly studded with the *Zysiphus* bush.

Hippolais rama rama (Sykes).

Specimen collected :—29 ♀ 11-10-33 Hamavas Lake.

Syke's Tree Warbler is probably a passage migrant.

Sylvia communis rubecula Stresemann.

According to Hume (*S.F.*, iii, 488) Dr. King collected specimens of the Common White-throat at Jodhpur itself and near Pali in September. The specimens are not in the British Museum but they doubtless belong to this race. This is another of the species that pass through north-west India on

the autumn passage to take the Arabian route to Africa and their winter quarters.

***Sylvia crassirostris jerdoni* (Blyth).**

Specimens collected:—136 ♀ 24-10-33 Hamavas Lake, Pali. Hume procured the Orphean Warbler at Jodhpur but considered it rare.

***Sylvia nana nana* (Hemprich & Ehrenberg).**

Specimens collected:—331-333 ♂ ♀ ♀ 1-1-34 Phalodi.

The desert areas of Jodhpur State are particularly suited to the requirements of the Desert Warbler and Hume found it extremely abundant in the low scrub round Jodhpur.

***Sylvia curruca blythi* Ticehurst & Whistler [*Sylvia affinis* auct.].**

Specimens collected:—14 ♂ 8-10-33 Pali; 21 ♂ 10-10-33, 35 ♂ 11-10-33, 121 ♂ 22-10-33 Hamavas Lake, Pali; 159 ♂ 3-11-33 Jalor; 241 ♀ 21-11-33 Sunda Hill, 3,400 ft.

***Sylvia curruca minuta* Hume.**

Specimen collected:—219 ♀ 14-11-33 Bhinmal.

These two subspecies of the Lesser White-throat were 'excessively common' when Hume was collecting at Jodhpur in January and February. His paper contains very important notes on the discrimination and distribution of these two subspecies and of the allied *Sylvia althaea*.

***Phylloscopus collybita tristis* Blyth.**

Specimens collected:—33 ♂ 11-10-33, 39 ♀ 12-10-33, 140 sex ? 25-10-33 Hamavas Lake, Pali; 330 ♀ 21-12-33 Tilwara.

***Phylloscopus griseolus* Blyth.**

Specimens collected:—252 ♂ 22-11-33, 263 ♀ 24-11-33 Sunda Hill, 3,400 ft.

***Prinia gracilis lepida* Blyth.**

Hume says that the Streaked Wren Warbler was very common about Jodhpur but it was not procured by the Survey.

***Prinia socialis stewarti* Blyth.**

This race of the Ashy Wren Warbler is said by Hume to occur in Jodhpur though he adds that it is nowhere common. It was not procured by the Survey.

***Prinia sylvatica gangetica* (Blyth).**

Specimens collected:—239 ♂ juv. 21-11-33, 253-4 ♀ ♂ juv. 22-11-33; 258 ♂ 23-11-33, 265 ♂ juv. 24-11-33, 270 juv. 25-11-33, 272 ♀ 26-11-33, 278 ♀ juv. 27-11-33, 285 ♂ juv., 287 ♀ ad. 288 juv. 28-11-33 Sunda Hill, 3,400 ft.

These specimens of the Jungle Wren-Warbler are of particular interest in that they confirm my opinion, given in full in *Jour. Bom. Nat. Hist. Soc.*, xxxvi, 575, that birds from Mount Abo could not be separated from those of the rest of northern India. Specimens were procured by Adam in the Koochamun jungles and by Dr. King at Jodhpur.

***Prinia inornata terricolor* (Hume).**

Specimens collected:—28 ♂ 11-10-33, 47 ♀ juv. 12-10-33, 82 ♀ juv. 17-10-33, 86 juv. 18-10-33, 128 ♂ juv. 22-10-33 Hamavas Lake, Pali.

The specimens of the Indian Wren-Warbler are all either juveniles or adults in heavy moult and therefore cannot be identified racially with complete certainty. They presumably belong to the northern race.

***Oriolus oriolus kundoo* Sykes.**

The Golden Oriole was not procured by the Survey. Hume however states that it is 'common in the eastern, rare in the western portions of Jodhpur'.

Pastor roseus (Linnaeus).

The Rosy Pastor is said by Hume to be common in Jodhpur in the cold weather. It was not procured by the Survey.

Sturnus vulgaris Linnaeus.

Hume says that the Starling is a very common visitor to Jodhpur but I have seen no specimens from the area and cannot say what race or races occur.

Temenuchus pagodarum (Gmelin).

Specimens collected :—11 ♀ 8-10-33 Pali; 139 ♀ 25-10-33 Hamavas Lake; 185 ♀ 6-11-33 Jalor.

Hume considered the Brahminy Mynah to be fairly common in Jodhpur.

Acridotheres tristis tristis Linnaeus.

The Common Mynah is not represented among the specimens collected by the Survey but Hume says it is common in the State.

Acridotheres ginginianus (Latham).

Hume says that the Bank Mynah is common in the State.

Ploceus philippinus philippinus (Linnaeus).

Specimens collected :—13 ♀ 8-10-33 Pali, 22 ♀ 10-10-33, 40, 43, 44 juvs. 12-10-33 Hamavas Lake, Pali.

According to Hume the Baya is common during the rains but less plentiful and more local during the rest of the year.

Uroloncha malabarica (Linn.).

Specimens collected.—37 ♂ 11-10-33, 65 ♂ 66 ♂ 68 ♂ 15-10-33 Hamavas Lake; 223 ♀ 14-11-33 Bhinmal.

Judging by the organs of the specimens collected the White-throated Munia was about to breed at Hamavas Lake.

Amandava amandava amandava (Linnaeus).

Specimens collected :—51-52 ♂ ♀ 13-10-33, 78 ♀ 16-10-33, 90-92 ♂ ♂ ♀ 18-10-33, 100-101 ♂ ♀ 19-10-33 Hamavas Lake, Pali.

The Red Avadavat was evidently breeding at Hamavas Lake as the males had the organs enlarged and the females were laying eggs.

Carpodacus erythrinus (Pallas).

Recorded by Hume for Jodhpur State.

Bucanetes githaginea crassirostris (Blyth).

Hume saw and obtained a single male of the Trumpeter Bullfinch near Jodhpur and it also occurs in Jaisalmer but the Survey failed to meet with it.

Gymnorhis xanthocollis transfuga Hartert.

Specimens collected :—71 ♂, 76 ♀ 16-10-33, 129 ♂ 22-10-33 Hamavas Lake, Pali; 172 ♂ 4-11-33 Jalor.

These specimens of the Yellow-throated Sparrow are somewhat intermediate in colour between the typical race and *G. x. transfuga*, but they are on the whole closer to the latter.

Passer domesticus parkini Whistler.

Specimens collected :—217 ♀, 218 ♂ 14-11-33, 225 ♂ 15-11-33 Bhinmal.

No. 218 with a wing measurement of 81 mm. clearly belongs to the large race of the House-Sparrow. So the probability is that the other two birds, which are on the larger side of the overlap of measurements common to both *parkini* and *indicus*, belong also to *parkini*. No doubt it is a winter visitor here as I found a marked passage through Jhang in September (*Ibis*, 1922, 272).

***Passer hispaneolensis* (Temminck).**

Adam informs us that he found the Spanish Sparrow very plentiful in the "Keggara" jungles near to the town of Koochamun during the cold season.

***Emberiza stewarti* Blyth.**

Specimens collected :—264 ♀ 24-11-33, 280 ♂ 27-11-33, 283 ♀ 28-11-33, 291-2 ♂ ♀ 29-11-33 Sunda Hill, 3,400 ft.

The White-headed Bunting is of course only a winter visitor to Jodhpur.

***Emberiza buchanani* Blyth.**

Specimens collected :—18 ♂ 8-10-33 Pali; 346 ♂ 5-1-34 Phalodi.

The Grey-necked Bunting was found 'in huge flocks' at Pali according to the label of the specimen. Adams procured specimens in the low range of hills close to Nawa and about Koochamun.

***Emberiza melanocephala* Scopoli.**

Specimen collected :—143 ♂ 1-11-33 Jalor.

The survey specimen is completing an entire moult. Hume says that at Soojut (north-east of Pali) he found the Black-headed Bunting in 'simply millions' at the time of the spring harvest.

***Emberiza icterica* Eversmann.**

Specimen collected :—179 ♂ 5-11-33 Jalor, 500 ft.

This bird is also completing an entire moult. Hume says that he procured the Red-headed Bunting at Soojut and Pali where it was closely associated with the Black-headed Buntings. Both species occurred in joint flocks.

***Emberiza striolata striolata* Lichtenstein.**

Specimen collected :—196 ♂ 7-11-33 Jalor, 1,000 ft.

Hume met with the Striolated Bunting near Jodhpur but says that it was only found on the flanks of the rocky hills. Adams found it in the scrub jungles about the hills near to Nawa and Marot.

***Melophus lathamii subcristata* Sykes.**

Specimens collected :—268 ♂ 25-11-33, 276 ♂ 26-11-33, 293 ♀ 29-11-33 Sunda Hill, 3,400 ft.

Adam's collector found the Crested Bunting common in the Koochamun hills.

***Riparia paludicola brevicaudata* Horsfield.**

According to Hume the Indian Sand Martin is found in Jodhpur but is comparatively rare.

***Riparia concolor* (Sykes).**

Specimens collected :—190 ♀, 193 ♂ 7-11-33 Jalor, 1,000 ft.

Hume met with the Dusky Crag Martin near Jodhpur but says that it was rare. Adam obtained it near Mata Pahar and the western end of the Sambhur Lake, and at Mata Pahar it was found by Hume to be breeding.

***Hirundo rustica rustica* Linnaeus.**

Specimen collected :—95 ♀ 19-10-33 Hamavas Lake.

Hume obtained the Common Swallow at Jodhpur in the winter. From his remarks (*S.F.*, iii, 451) it seems that the Eastern race *H. r. gutturalis* may also occur in Jodhpur.

***Hirundo daurica erythropygia* Sykes.**

Specimens collected :—200-202 ♂ ♂ ♀ 8-11-33 Jalor.

All three specimens are completing an entire moult. Hume remarks that this Red-rumped Swallow is common during the rains in Jodhpur but rare in the hot season.

Hirundo daurica nepalensis Hodgson. [?].

Specimen collected :—93 ♀ 19-10-33 Hamavas Lake.

This is a poor specimen, probably immature, very worn and with the wings commencing to moult but it seems to me to belong to the Himalayan race of Red-rumped Swallow.

Motacilla alba dukhunensis Sykes.

The White Wagtail was procured by Hume at Jodhpur in the winter but the Survey did not obtain it.

Motacilla maderaspatensis Gmelin.

The Large Indian Wagtail is said by Hume to occur about Jodhpur town but only sparingly.

Motacilla cinerea caspica (S. G. Gmelin).

The Grey Wagtail is said by Hume to occur in Jodhpur.

Motacilla feldegg melanogriseus (Homeyer).

The Black-headed Wagtail is said by Hume to occur in Jodhpur.

Motacilla flava subsp ?

Specimens collected :—67 ♀ 15-10-33, 103 ♀ 19-10-33 Hamavas Lake.

It is not possible to identify these female wagtails subspecifically.

Motacilla citreola calcarata Hodgson.

Hume received the Yellow-headed Wagtail from Jodhpur.

Anthus trivialis Linnaeus.

Recorded by Hume from Jodhpur.

Anthus rufulus waitei Whistler.

Specimen collected :—230 ♂ 16-11-33 Bhinmal.

Hume remarks that he had received no specimen of the Common Indian Pipit from Jodhpur.

Anthus spinoletta blakestoni Swinhoe.

There are no Jodhpur examples in the British Museum but Hume recorded this species and the race may be inferred.

Anthus campestris (Linnaeus).

The Survey curiously enough did not procure the Tawny Pipit but Hume includes it in his Jodhpur list.

Melanocorypha bimaculata (Ménétries).

Specimens collected :—344-345 ♂♂ 4-1-34, 350-353 ♂♂♂♂ 5-1-34 Phalodi.

Calandrella brachydactyla longipennis (Eversmann).

Specimens collected :—145 ♂, 147-8 ♂♂ 1-11-33, 204-206 ♂♂♂ 10-11-33 Jalar; 226-7 ♂♀ 15-11-33 Bhinmal; 318 ♂ 19-12-33 Tilwara; 341-2 ♂♀ 2-1-34, 347 ♂ 5-1-34 Phalodi.

Hume found the Short-toed Lark very common at Jodhpur, and it is no doubt general and common as a winter visitor as King procured it at Pali on 16 September 1868 and Blanford got it east of Bahmīr-Malani on 10 February 1876.

Alauda gulgula (Franklin).

Said by Hume to occur in Jodhpur.

Mirafr cantillans (Blyth).

According to Hume the Singing Bush-Lark occurs sparingly in the western parts of Jodhpur.

Mirafr erythroptera sindiana Ticehurst.

Specimen collected :—94 ♂ 19-10-33 Hamavas Lake.

Hume considered the Red-winged Bush-Lark common in Jodhpur.

Galerida cristata chendoola (Franklin).

Specimens collected :—319-321 ♀ ♀ ♂ Tilwara, R. Luni.

The Crested Lark was very common at Jodhpur according to Hume.

Ammomanes phoenicura (Franklin).

The Rufous-tailed Finch-Lark is said by Hume to be common in Jodhpur.

Eremopteryx grisea grisea (Scopoli).

Specimens collected :—17 ♀ 8-10-33 Pali; 157-158 ♂ ♀ 3-11-33, 166 ♀ juv. 4-11-33, 177 ♀ 5-11-33, 207 ♀ 10-11-33, 209 ♂ imm., 210 ♀ juv. 10-11-33 Jalor; 214 ♂ 13-11-33, 215 juv. 14-11-33 Bhinmal.

The above specimens of the Ashy-crowned Finch-Lark are intermediate in colour between the typical race and *E. g. siccata* but they are if anything closer to the typical race. Hume got no specimens of this Lark at Jodhpur but it was collected there by Dr. King and is said to be common.

Eremopteryx albicollis affinis (Blyth).

Specimens collected :—334-336 ♀ ♂ 1-1-34, 339-340 ♂ ♀ 2-1-34 Phalodi.

Hume found the Black-crowned Finch-Lark extremely common in the sandy wastes about Jodhpur and he says that it extends into Jaisalmer. He collected a good series and gives a detailed note on the various plumages.

Zosterops palpebrosa occidentis Ticehurst.

Specimens collected :—242 ♂ 21-11-33, 273 ♂ 25-11-33 Sunda hill, 3,400 ft.; 303-4 ♂ ♀ 2-12-33 Jawar, Jaswantpura.

Cinnyris asiatica asiatica (Latham).

Specimens collected :—16 ♂ 8-10-33 Pali; 114 ♂ 21-10-33, 135 ♂ 24-10-33 Hamavas Lake; 315 ♂ imm. 5-12-33 Jawar, Jaswantpura.

Hume says of his specimens collected at Jodhpur that they are 'short-billed and green, closely approaching the *brevirostris* form'. He collected in a year of extreme drought which may have brought in birds from further west, but the specimens collected by the Survey appear to me to be closer to the typical form.

Chrysocolaptes festivus (Boddaert).

Adam collected a single specimen of the Black-backed Woodpecker in the Koochamun jungles.

Brachypternus benghalensis benghalensis (Linnaeus).

Specimens collected :—298 ♂, 300 ♂ 2-12-33 Jawar, Jaswantpura District.

These specimens of the Golden-backed Woodpecker definitely belong to the typical form. The bird is evidently not common as in the Sambhur area. Adam only saw one individual in the Koochamun jungles.

Dryobates mahrattensis aurocristatus (Tickell).

Specimens collected :—41-42 ♂ ♀ 12-10-33, 54 ♂ 14-10-33, 74 ♀ 16-10-33, 125 ♂ 22-10-33 Hamavas Lake; 266 ♂ 25-11-33, 289-290 ♂ ♂ 29-11-33, 299 ♂ 2-12-33 Sunda Hill, 3,400 ft., Jaswantpura.

Hume also procured the Yellow-fronted Pied Woodpecker near Jodhpur.

Jynx torquilla torquilla (Linnaeus).

Specimens collected :—31 ♀ 11-10-33, 73 ♂ 16-10-33, 89 ♂ 18-10-33 Hamavas Lake; 180 sex ? 5-11-33 Jalor; 274 ♂ 25-11-33, 284 ♀ 28-11-33 Sunda Hill, 3,400 ft.

Hume procured the Wryneck at Pali in April.

Xantholaema haemacephala indica Latham.

Specimen collected :—296 ♀ 29-11-33 Sunda Hill.

Hume records the Crimson-breasted Barbet from Jodhpur State.

Hierococcyx varius Vahl.

Hume includes the Common Hawk-Cuckoo in his Jodhpur list as a monsoon straggler.

Clamator jacobinus (Boddaert).

Hume says that the Pied Crested Cuckoo is only found in Jodhpur in the rains.

Eudynamis scolopaceus (Linnaeus).

The Koel is included by Hume in his Jodhpur list.

Centropus sinensis (Stephens).

The Crow-Pheasant is included by Hume in his Jodhpur list.

Taccocua leschenaultii sirkee (Gray).

Specimen collected :—60 ♀ 14-10-33 Hamavas Lake.

The ovary of this Sirkeer Cuckoo was much enlarged as if the bird was just about to lay. Adam considered the Sirkeer rare as he only met and procured a pair in a patch of jungle near Marot. Dr. King obtained the bird at Jodhpur in the rains.

Psittacula krameri manillensis (Bechstein)

No specimen of the Common Indian Roller was preserved by the Survey but Hume includes it in his Jodhpur list.

Psittacula cyanocephala (Linnaeus).

The Blossom-headed Parrakeet is included in Hume's Jodhpur list.

Coracias benghalensis (Linnaeus).

No specimen of the Common Indian Roller was preserved by the Survey but Hume includes it in his Jodhpur list.

Coracias garrula semenovi Loudon and Tschusi.

Specimen collected :—24 ♀ 10-10-33 Hamavas Lake.

An immature specimen of the Roller, evidently on passage.

Merops orientalis orientalis Latham.

Specimens collected :—233-234 ♂ ♂ 16-11-33 Bhinmal.

Hume remarks that the Little Green Bee-eater was 'scarce' near Jodhpur in January and February.

***Merops superciliosus persicus* Pallas.**

Specimens collected :—97 ad. ♀, 98 juv. ♂ 19-10-33 Hamavas Lake, Pali.
According to Hume the Blue-cheeked Bee-eater is a summer visitor only to Jodhpur. Adam found it common in the Marot hills.

***Ceryle rudis leucomelanura* Reichenbach.**

Hume includes the Pied Kingfisher in his Jodhpur list.

***Alcedo atthis pallasii* Reichenbach.**

Specimen collected :—59 ♂ 14-10-33 Hamavas Lake.
This specimen of the Common Kingfisher is an adult in complete moult but it appears to belong to the above migratory race and not to the resident *bengalensis*.

***Halcyon smyrnensis* Linnaeus.**

The White-breasted Kingfisher was not procured by the Survey. Hume met with it by some little tanks near Jodhpur, though he called it 'very rare'.

***Upupa epops epops* Linnaeus.**

Specimen collected :—12 ♀ 8-10-1933, Pali.
Hume also noted the Hoopoe at Jodhpur.

***Micropus affinis* (Gray).**

The Common Indian Swift is included by Hume in his Jodhpur list.

***Caprimulgus europaeus unwini* Hume.**

Specimens collected :—36 ♂ 11-10-33, 50 [♀] 13-10-33, Hamavas Lake.

***Asio flammeus flammeus* (Pontoppidan).**

Specimens collected :—273 ♀, 238 ♂ 17-11-33, Bhinmal.

***Strix ocellata* (Lesson).**

Specimen collected :—312 ♂ 5-10-33 Jawar, Jaswantpura.

***Ketupa zeylonensis leschenaulti* (Temminck).**

The Fish-Owl was not procured by the Survey but Hume saw and collected a single specimen near Jodhpur.

***Bubo bubo bengalensis* (Franklin).**

Specimens collected :—85 ♀ 17-10-33 Hamavas Lake; 359 ♂ 12-1-34 Pichiak Lake, Bilara.
Hume considered the Rock Horned Owl rare in Jodhpur.

***Bubo coromandus* (Latham).**

Specimen collected :—356 ♂ 12-1-34 Pichiak Lake, Bilara.
The Dusky Eagle-Owl is included in Hume's list.

***Athene brama indica* (Franklin).**

Specimens collected :—20 ♂ 10-10-33 Hamavas Lake; 326 ♂ 21-12-33 Tilwara.
Hume met with the Spotted Owlet near Jodhpur.

***Sarcogyps calvus* (Scopoli).**

Hume met with the King Vulture near Jodhpur and Adam mentions a rock nest in March in the hills near the town of Nawa.

Gyps fulvus fulvescens Hume.

Hume shot the Indian Griffin himself at Jodhpur.

Gyps indicus pallescens Hume.

Also procured by Hume at Jodhpur where it is apparently common. No specimens of Vultures were preserved by the Survey.

Pseudogyps bengalensis (Gmelin).

Noted by Hume near Jodhpur and apparently common.

Neophron percnopterus ginginianus (Latham).

The Egyptian Vulture is very common in Jodhpur State. Hume records it as of this form.

Falco jugger Gray.

Specimens collected :—307 ♂ 4-12-33 Jawar, Jaswantpura; 327 ♂ 21-12-33 Tilwara.

Hume met with the Lugger Falcon at Balmeer and Jodhpur but considered it rare.

Falco chequera Daudin.

The Torumti was noted by Hume near Jodhpur but no specimen was procured by the Survey.

Falco tinnunculus tinnunculus Linnaeus.

Specimen collected :—203 ♀ 8-11-33, Jalor.

Hume called the Kestrel rare in the neighbourhood of Jodhpur.

Aquila rapax vindhiana Franklin.

Specimens collected :—149 ♂ 1-11-33 Jalor; 228 ♀ 15-11-33 Bhinmal; 317 ♀ 6-12-33 Jawar, Jaswantpura; 325 ♂ 20-12-33 Tilwara.

Hume also records the Tawny Eagle from the neighbourhood of Jodhpur.

Aquila clanga Pallas.

Specimen collected :—360 ♀ imm. 14-1-34 Pichiak Lake, Bilara District.

The Large Spotted Eagle is included by Hume in his Jodhpur list.

Hieraëtus fasciatus fasciatus (Vieillot).

Specimen collected :—361 ♀ 14-1-34 Pichiak Lake, Bilara District.

Hume had a specimen of Bonelli's Eagle from the State.

Circaëtus ferox (S. G. Gmelin) [*gallicus* auct.].

Hume states that he took the nest and saw several specimens of the Short-toed Eagle in Jodhpur. For the change of the name of this Eagle see *Ibis*, 1934, p. 645.

Butastur teesa (Franklin).

Specimens collected :—311 ♂ 4-12-33 Jawar, Jaswantpura; 236 ♂ imm. 16-11-33 Bhinmal.

The White-eyed Buzzard is included by Hume in his list.

Haliaëtus leucoryphus (Pallas).

Pallas' Fishing Eagle is said by Hume to occur in Jodhpur but it is necessarily rare there.

Milvus migrans govinda Sykes.

No specimen of the Common Pariah Kite was brought back by the Survey but Hume includes the bird in his Jodhpur list and it is presumably common.

Elanus caeruleus vociferus (Latham).

Specimen collected :—171 ♂ 4-11-33 Jalor.
Included by Hume in his Jodhpur list.

Circus macrourus (S. G. Gmelin).

Specimen collected :—277 ♀ 26-11-33 Sunda hill, 3,400 ft.
The Pale Harrier is said by Hume to be common.

Circus aeruginosus aeruginosus (Linnaeus).

Specimen collected :—357 ♂ 10-1-34 Bilara.
Also said by Hume to be common but suitable jheels are scarce in the State.

Buteo rufinus rufinus (Cretzschmar).

Specimens collected :—322 ♀, 324 ♂ 19-12-33 Tilwara.
Hume found the Long-legged Buzzard 'rather scarce' in the neighbourhood of Jodhpur.

Buteo buteo burmanicus Hume.

Specimens collected :—255 ♂ 23-11-33, 282 ♂ 27-11-33 Sunda Hill, 3,400 ft.
In attributing these two Buzzards to the above race I am following conventional usage rather than any profound conviction of my own as the whole question of the identity of Indian Buzzards seems to be uncertain. No. 282 is the smallest Buzzard I have ever seen (bill from skull 32.5, wing 342, tail 182 tarsus 7.5 mm.) and smaller than the measurements given by Witherby for *vulpinus* (♂ wing 350-85 mm.) and by Hartert for *japonicus* (= *burmanicus*) (♂ wing 355-87 mm.). It seems to me equally likely to belong to either form. It will be remembered that Hume was very puzzled by a small Buzzard with a wing of 13.4 ins. = 340 mm. obtained on the Brahmagherries. S.F., x, pp. 159, 327 and 338.

Astur badius dussumieri (Temminck).

Specimens collected :—181 ♂ 6-11-33 Jalor; 213 ♀ 13-11-33 Bhinmal.
Hume records the Shikra from Jodhpur but considered it local and absent from the more barren areas.

Accipiter nisus (Linnaeus).

Hume says that the Sparrowhawk occurs in Jodhpur but is apparently very rare.

Crocopus phoenicopterus chlorogaster (Blyth).

The Southern Green Pigeon is stated by Hume to occur in Jodhpur.

Columba livia subsp.

No specimen of the Blue Rock-Pigeon was procured by the Survey. Under the name of *intermedia* Hume stated that he found this species extraordinarily scarce in Jodhpur even though its killing was strictly forbidden. This was in a year of drought and he was informed that it was more common in normal years.

Streptopelia senegalensis cambayensis (Gmelin).**Streptopelia chinensis suratensis** (Gmelin).**Streptopelia decaocto decaocto** Frivalsky.

Oenopopelia tranquebarica tranquebarica (Hermann).

No specimens of doves were preserved by the Survey but Hume includes these four species in his Jodhpur list.

Pterocles orientalis (Linnaeus).

The Imperial Sandgrouse is said by Hume to be very common in Jodhpur and he describes (*Game Birds*, i, 49) how he came upon a pack of fully two thousand, grouped together in a clump little, if at all, more than thirty yards long by ten wide.

Pterocles indicus (Gmelin).

Adam found the Painted Sandgrouse common in the Koochamun Hills in March 1871 and gives a full account (*S.F.*, i, 391) of how he shot them over water there. He subsequently obtained eggs from that locality in April and May.

Pterocles alchata caudacutus (S. G. Gmelin).

According to Stuart Baker (*Game Birds*, ii, 283) the Large Pin-tailed Sandgrouse has been obtained in Jodhpur but no details are given.

Pterocles exustus ellioti Bogdanow.

The Common Sandgrouse is common in Jodhpur according to Hume.

Pterocles senegallus (Linnaeus).

Dr. Newman obtained the Spotted Sandgrouse at Pokurun and found it very common between that place and the town of Jaisalmer as well as throughout the country for about 20 miles south of Jaisalmer. This tract is hard and stony but intermingled with sand. A male skin and the wing of a female were sent to Butler in verification of this record (cf. *S.F.*, iv, 508 and v, 60).

Pavo cristatus Linnaeus.

In spite of the drought and famine Hume found a few Peafowl still at Jodhpur and he remarks that as the bird is more or less sacred in Rajputana it becomes very common wherever there is suitable cover.

Perdicula argoondah meinertzhageni Whistler.

Specimen collected :—169 ♀ 4-11-33 Jalor, 500 ft.

The Rock Bush-quail is said by Hume to be common. Either this or *P. asiatica* occurs in the Koochamun Hills.

Francolinus pondicerianus (Gmelin).

Included by Hume in his Jodhpur list.

Coturnix coturnix (Linnaeus).

In Hume's Jodhpur list.

Coturnix coromandelica (Gmelin).

According to Hume the Black-breasted quail is found in western Jodhpur only in the rains.

Turnix tanki tanki Blyth.

Hume states that the Button-quail has been obtained in Jodhpur towards the close of the rains in August and September.

Turnix sylvatica dussumieri (Temm. & Lang.).

The Little Button-quail is included by Hume in his Jodhpur list.

Gallinula chloropus (Linnaeus).

The Waterhen is given in Hume's list.

Porphyrio poliocephalus (Latham).

Very rare in Jodhpur (Hume).

Fulica atra Linnaeus.

Given in Hume's list.

Hydrophasianus chirurgus (Scopoli).

Given in Hume's list.

Rhynchaea benghalensis (Linnaeus).

Occurs in Jodhpur according to Hume but is more common in the rains.

Grus grus (Linnaeus).

The Common Crane is more or less common in the cold season according to Hume.

Antigone antigone (Linnaeus).

Common in Jodhpur according to Hume.

Anthropoides virgo (Linnaeus).

The Demoiselle is common in Jodhpur according to Hume. Adam mentions seeing a flock near Nawa on 13 March 1873.

Choriotis nigriceps (Vigors).

In Hume's day the Great Bustard was 'uncommon' in Jodhpur.

Chlamydotis undulata macqueenii (Gray)

Common in Jodhpur (Hume).

Sypheotides indica (Miller).

Common in Jodhpur as a rain's visitor according to Hume.

Burhinus oedicephalus saharae (Reichw).

Specimen collected :—96 ♂ 19-10-33 Hamavas Lake, Pali.

Adam says that he met with the Stone-curlew in the scrub jungle near to Mata Pahar and in the low range of hills to the west of Nawa; in the latter place he saw a party of four. Mack-worth-Praed and Grant (*Ibis.*, 1936, p. 200) have come to the same opinion which I reached independently that *saharae* and *astutus* are only sandy and greyish phases of the same bird, phases which Ticehurst has suggested (*Ibis.* 1937, pp. 406-407) may have some connection with soil and locality as in the case of various larks. Bates' suggestion (*Ibis.*, 1937, p. 308) that the sandy phase was connected with immaturity is refuted by this specimen which is very sandy in colour and is an adult undergoing the complete post-nuptial moult.

Esacus recurvirostris (Cuvier).

The Great Stone Plover is found in suitable river beds in Jodhpur (Hume).

Cursorius cursor (Latham).

According to Hume the Cream-coloured Courser replaces the next species throughout the greater part of Jodhpur.

Cursorius coromandelicus (Gmelin).

Hume notes that he saw the Indian Courser near Jodhpur town.

Larus brunneicephalus Jerdon.

Chlidonias leucopareia indica (Stephens).

Gelochelidon nilotica (Gmelin).

Sterna aurantia Gray.

Hume notes that these 4 species occur in Jodhpur.

Squatarola squatarola (Linnaeus).

'In Jodhpur I do not know of its occurring except when migrating in autumn and spring when stragglers are met with at many large pieces of water' (Hume).

Leucopoliis alexandrinus (Linnaeus).

Included on Hume's authority.

Charadrius dubius jerdoni (Legge).

Specimen collected :—5 ♂ 8-10-33 Pali.

According to Hume the Little Ring Plover is common in Jodhpur.

Cirrepedesmus mongolus (Pallas).

Cirrepedesmus leschenaultii (Lesson).

According to Hume both these Plovers may be met on migration in Jodhpur between 15 August and 15 September or during April and May.

Pluvialis dominicus fulvus (Gmelin).

Hume states that he has only seen one specimen of the Eastern Golden Plover from Jodhpur and that was taken at Pali.

Vanellus vanellus (Linnaeus).

Adam says that he only saw the Lapwing twice at a lake near Koochamun and only obtained one specimen.

Chettusia gregaria (Pallas).

A cold weather visitor and common according to Hume.

Chettusia leucura (Lichtenstein).

Included in Hume's list.

Lobivanellus indicus (Boddaert).

Although the Red-Wattled Lapwing was not procured by the survey it is common in Jodhpur according to Hume and during the drought he found a pair or two about every hamlet. The little village ponds, around which these birds usually live, were then empty and Hume describes in amusing language how they had in consequence betaken themselves to the village Golgathas, living on the maggots and the flesh of the carcasses of dead animals.

Himantopus himantopus (Linnaeus).

Common (Hume).

Recurvirostra avocetta Linnaeus.

Comparatively rare in Jodhpur (Hume).

Numenius arquata Linnaeus.

Rare in Jodhpur where the localities suited to it are few (Hume).

Limosa limosa (Linnaeus).

Common according to Hume.

Tringa stagnatilis (Bechstein).

Not uncommon in suitable localities in Jodhpur (Hume).

Tringa glareola Linnaeus.

Tringa totanus (Linnaeus).

Tringa erythropus (Vroeg).

Glottis nebularia (Gunnerus).

These four species are all included by Hume in his list.

Philomachus pugnax (Linnaeus).

The Ruff is common according to Hume.

Erolia minuta (Leisler).

Erolia temminckii (Leisler).

Both these Stints are included in Hume's list.

Capella gallinago (Linnaeus).

Lymnocyptes minutus (Brünnich).

Both these Snipe are included in Hume's list, the former being said to be common.

Pelicanus philipensis Gmelin.

Hume includes the Spot-billed Pelican in his Jodhpur list.

Phalacrocorax carbo (Linnaeus).

Included in Hume's list.

Phalacrocorax fuscicollis Stephens.

Dr. King noted the Indian Shag from Jodhpur but Hume says that he personally had not examined any specimen from there.

Phalacrocorax niger (Vieillot).

Said by Hume to be common in suitable localities.

Anhinga melanogaster Pennant.

Included in Hume's list.

Platalea leucorodia Linnaeus.

Threskiornis melanocephalus (Latham).

Pseudibis papillosus (Temm. & Laug.).

All three species are included by Hume in his list apparently as more or less common birds.

Plegadis falcinellus (Linnaeus).

'Very rare in Jodhpur' (Hume).

Ciconia ciconia (Linnaeus).

Hume did not think the White Stork was very rare in parts of Jodhpur suited to its tastes.

Ciconia nigra (Linnaeus).

The Black Stork has been obtained in Jodhpur (Hume).

Xenorhynchus asiaticus (Latham).

Rare in Jodhpur (Hume).

Leptoptilos dubius (Gmelin).

Hume says that the adjutant in his day was scarcely seen in Jodhpur except during the rains, but I imagine that it is no longer found there.

Ibis leucocephalus (Pennant).

Common in Jodhpur according to Hume.

Anastomus oscitans (Boddaert).

Hume says that the Open-bill is not uncommon in Jodhpur.

Ardea purpurea Linnaeus.

Ardea cinerea Linnaeus.

Egretta alba (Linnaeus).

Egretta garzetta (Linnaeus).

Bubulcus ibis coromandus (Boddaert).

Ardeola grayii Sykes.

Butorides striatus javanicus (Horsfield).

Nycticorax nycticorax (Linnaeus).

All the above species of Heron are included by Hume in his Jodhpur list.

Phoenicopterus ruber Linnaeus.

According to Hume Dr. King obtained the Flamingo at Pali in October.

Sarkidiornis melanotus (Pennant).

The Nukta is common in Jodhpur according to Hume.

Dendrocygna javanica (Horsfield).

Very rare in Jodhpur (Hume).

Casarca ferruginea (Pallas).

Occurs in Jodhpur (Hume).

Anas platyrhyncha (Linnaeus).

'I have only seen one killed in Jodhpur near Pallae' (Hume).

Anas poecilorhyncha Forster.

Chaulelasmus streperus (Linnaeus).

Nettion crecca (Linnaeus).

Dafila acuta (Linnaeus).

Querquedula querquedula (Linnaeus).

Spatula clypeata (Linn.).

Netta rufina (Pallas).

Nyroca ferina (Linnaeus).

Nyroca rufa (Linnaeus).

Nyroca fuligula (Linnaeus).

The above ducks are all included by Hume in his Jodhpur list.

Podiceps ruficollis capensis Salvadori.

Finally the Little Grebe is also included by Hume in his Jodhpur list.